87

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EXAMINER	
YANG, ANDREW GUS	
ART UNIT	**PAPER NUMBER**
2628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/810,487	PEACHEY, DARWYN	
	Examiner	Art Unit	
	Andrew Yang	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☒ Claim(s) *6 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1, 2, 3.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 6 and 14 are objected to because of the following informalities: in claim 6, "providing an asset management system the first specification of the object" is suggested to be changed to --providing an asset management system for the first specification of the object-- and in claim 14, the period at the end of the step "wherein the codes reside on a tangible media" should be replaced by a semicolon because this is not the last step of the claim. Claim 6 will be interpreted as in the suggested change. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 6-11, 14-17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gossweiler, III et al. (U.S. Patent No. 6,400,372).

With respect to claim 1, Gossweiler, III et al. disclose a method for rendering an isolated frame in a sequential series of frames representing a dynamic scene (column 8, lines 15-16). Gossweiler, III et al. disclose scene descriptor data, shown as scene 400 in Fig. 4, including object J 401, object K 402, and object L 403 in Fig. 4 (column 9, lines 5-6); it is deemed inherent that the scene 400 is retrieved from an appropriate source

prior to rendering. A first specification of object J requires 5000 polygons and is associated with a first rendering option requiring a level of detail LOD (J1) 404 in Fig. 4 (column 9, lines 7-9). The levels of detail for the various objects are chosen such that all objects can be drawn in the predetermined maximum amount of time determined by the desired frame rate (column 8, lines 66-67 and column 9, lines 1-2), corresponding to a first rendering option for LOD (J1) or a second rendering option for LOD (J2) (column 9, line 7). It is deemed inherent that the first representation of the object is loaded into computer memory because this is required prior to rendering the object. Fig. 4 illustrates the various levels of detail available for displaying the three objects in the scene shown in Fig. 2 (column 9, lines 3-4); therefore, this includes rendering the object using the first representation of the object with LOD (J1). However, Gossweiler III et al. do not explicitly teach querying a database for a first representation of the one object in response to the first specification of the object when the first rendering option is selected. Database queries are well known in the art; therefore it would have been obvious to query a database for a first representation of the one object in response to the first specification of the object when the selection is of the first rendering option because this would allow for obtaining necessary details for rendering the first representation of the object. Gossweiler III et al. do not explicitly state the limitation wherein the first representation of the object is not loaded into computer memory when the selection is of the second rendering option. It is well known to save memory by discarding extra primitives; therefore it would have been obvious to avoid loading the

first representation of the object when the second rendering option is selected to save memory because the first representation is not immediately required.

With respect to claim 2, Gossweiler III et al. disclose the method as in claim 1 wherein the scene 400 in Fig. 4 includes a second specification of the object requiring 2000 polygons and is associated with a second rendering option requiring a level of detail LOD (J2) (column 9, lines 7 and 9). Claim 2 contains parallel steps to claim 1 being performed using a second specification, second rendering option, and second representation; see rationale for rejection of claim 1 regarding these analogous steps.

With respect to claim 3, Gossweiler III et al. disclose the method as in claim 1, wherein the one object comprises a geometric object, shown as object J in Fig. 2. The first representation of the object comprises a geometric description of the geometric object corresponding to level of detail 202 in Fig. 2.

With respect to claim 6, Gossweiler III et al. disclose the method as in claim 1. However, Gossweiler III et al. do not explicitly teach providing an asset management system for the first specification of the object and receiving a location of the first representation of the one object from the system. Providing such systems is well known in the art for retrieving data; therefore it would have been obvious to provide an asset management system for the first specification of the object and receive a location of the first representation of the one object from the system because this would allow for obtaining the first representation of the object from the system.

With respect to claim 7, Gossweiler III et al. disclose the method as in claim 1. The display screen appearance 200 in Fig. 2 represents an isolated frame in a

sequential series of frames representing a dynamic scene (column 8, lines 14-16). However, Gossweiler III et al. do not explicitly teach storing a frame of animation. Storing a frame of animation is well known in the art; therefore, it would have been obvious to store a frame of animation because this would allow for reloading the same frame for it to be redisplayed.

With respect to claim 8, Gossweiler III et al. disclose a method for rendering an isolated frame in a sequential series of frames representing a dynamic scene (column 8, lines 15-16). Gossweiler, III et al. disclose scene descriptor data, shown as scene 400 in Fig. 4, including object J 401, object K 402, and object L 403 in Fig. 4 (column 9, lines 5-6), and composite object COMP1 411 in Fig. 4; it is deemed inherent that the scene 400 is retrieved from an appropriate source prior to rendering. Object COMP1 is associated with a reference to a first representation of the object by objects K, L, LOD (K1), and LOD (L1) in Fig. 4 and associated with a reference to a second representation of the object by objects K, L, LOD (K1), and LOD (L2) in Fig. 4. The first representation is associated with a first rendering option where both objects K and L are represented with a high level of detail; the second representation is associated with a second rendering option where object K is represented with a high level of detail and object L is represented with a lower level of detail. The levels of detail for the various objects are chosen such that all objects can be drawn in the predetermined maximum amount of time determined by the desired frame rate (column 8, lines 66-67 and column 9, lines 1-2), corresponding to a first rendering option or a second rendering option, depending on the level of detail and desired frame rate. It is deemed inherent that the first

representation of the object is loaded into computer memory because this is required prior to rendering the object. Fig. 4 illustrates the various levels of detail available for displaying the three objects in the scene shown in Fig. 2 (column 9, lines 3-4); therefore, this includes rendering the object using the first representation of the object. Gossweiler III et al. do not explicitly state the limitation wherein the first representation of the object is not loaded into computer memory when the selection is of the second rendering option. It is well known to save memory by discarding extra primitives; therefore it would have been obvious to avoid loading the first representation of the object when the second rendering option is selected to save memory because the first representation is not immediately required. The first representation of object COMP1 comprises references to representations of objects K, LOD (K1), L, and LOD (L1) and the second representation of object COMP1 comprises references to representations of objects K, LOD (K1), L, and LOD (L2). Object LOD (K1) is within the first and second plurality of objects.

With respect to claim 9, Gossweiler III et al. disclose the method as in claim 8. Gossweiler III et al. do not explicitly teach loading representations of the first plurality of objects into memory when the first rendering option is selected; however, loading objects into memory prior to rendering is well known in the art. Therefore, it would have been obvious to load representations of the first plurality of objects into memory if the first rendering option is selected because this would allow for faster rendering due to quicker access of the objects to be rendered.

With respect to claim 10, Gossweiler III et al. disclose the method as in claim 9 comprising identical steps of claim 2; see rationale for rejection of claim 2.

With respect to claim 11, Gossweiler III et al. disclose the method as in claim 9 identical to claim 3; see rationale for rejection of claim 3.

With respect to claim 14, Gossweiler III et al. disclose a memory device 103 such as RAM which stores program instructions executed by processor 102 as well a data which is read and/or written by programs executed by processor 102 (column 7, lines 58-61). Though Gossweiler III et al. does not explicitly disclose a computer program product for implementing the methods of the invention on a computer readable media, this is well known in the art. It would have been obvious to implement the methods on computer readable media in order to provide instructions to be executed by the processor because this will allow for program execution. Claim 14 contains similar steps to claim 1 except for a second representation of the object associated with a second rendering option as in claim 2 and the last three steps as in claim 8, see rationale for rejection of corresponding claims.

With respect to claim 15, Gossweiler III et al. disclose the computer program product as in claim 14 that implements the method of claim 9; see rationale for rejection of claim 9.

With respect to claim 16, Gossweiler III et al. disclose the computer program product as in claim 15 that implements loading and rendering steps of claim 2; see rationale for rejection of claim 2.

With respect to claim 17, Gossweiler III et al. disclose the computer program product as in claim 16 that implements the method of claim 3; see rationale for rejection of claim 3.

With respect to claim 20, Gossweiler III et al. disclose the computer program product as in claim 16, wherein the first representation of the object further comprises values for properties of objects in the first plurality of objects, the properties being the number of polygons for objects LOD (K1) and LOD (L1) as in Fig. 4.

Claims 4,12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gossweiler, III et al. (U.S. Patent No. 6,400,372) in view of Harvill et al. (U.S. Patent No. 6,559,845).

With respect to claim 4, Gossweiler III et al. disclose the method as in claim 1. However, Gossweiler III et al. do not disclose a camera object wherein the first representation of the camera object comprises: camera field of view, camera position, camera orientation, and camera aspect ratio.

Harvill et al., who also deal with scene animation, disclose a method with an object hierarchy in Fig. 3, including a camera object 148 for storing information about camera position and angle with respect to an object model (column 8, lines 45-47). In addition, it would have been obvious to include camera field of view and camera aspect ratio data because these attributes are well known in the art for describing cameras.

Gossweiler III et al. and Harvill et al. are analogous in that they are in the same field of endeavor, namely computer graphics animation.

At the time of the invention, it would have been obvious to combine the method of including a camera object with attributes as taught by Harvill et al. with the Gossweiler III et al. reference for the benefit of providing viewpoint attributes necessary for defining the scene.

With respect to claim 12, see rationale for rejection of identical claim 4.

With respect to claim 18, Gossweiler III et al. disclose the computer program product as in claim 16 that implements the method of claim 4; see rationale for rejection of claim 4.

Claims 5, 13, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gossweiler, III et al. (U.S. Patent No. 6,400,372) in view of Gagne (U.S. Patent No. 6,353,437).

With respect to claim 5, Gossweiler III et al. disclose the method as in claim 1. However, Gossweiler III et al. do not disclose a light object wherein the first representation of the light object comprises: type of light source, light color, light source, light quality, and light shape.

Gagne, who also deals with scene animation, discloses a method wherein light object 98a in Figs. 4, 5, and 6, applies a highlight property to a scene represented by frames 120a, 120b, and 120c, in Figs. 4, 5, and 6, respectively (column 7, lines 12-13, 16, and 19-21), thus describing a light source and light quality. In addition, it would have been obvious to include type of light source, light color, and light shape data because these attributes are well known in the art for describing light sources.

Gossweiler III et al. and Gagne are analogous in that they are in the same field of endeavor, namely computer graphics animation.

At the time of the invention, it would have been obvious to combine the method of including a light object with attributes as taught by Gagne with the Gossweiler III et al. reference for the benefit of providing light attributes necessary for illuminating the scene.

With respect to claim 13, see rationale for rejection of identical claim 5.

With respect to claim 19, Gossweiler III et al. disclose the computer program product as in claim 16 that implements the method of claim 5; see rationale for rejection of claim 5.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art in scene rendering:

U.S. PGPUB 20050134591 to Baxter for rendering multiple frames at a different level of detail

U.S. Patent No. 6,348,921 to Zhao et al. for rendering an object at multiple levels of detail

U.S. Patent No. 6,313,837 to Assa et al. for rendering a surface at multiple levels of resolution.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Yang whose telephone number is (571) 272-5514. The examiner can normally be reached on 8:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman can be reached on (571) 272-7653. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AGY

3/24/06

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